

Listing of the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

- 1 1 (previously presented): A molecule of the structure **A – X – B**, wherein
2 **B** is a peptide portion of about 5 to about 20 basic amino acid residues, which is
3 suitable for cellular uptake,
4 **A** is a peptide portion of about 2 to about 20 acidic amino acid residues, which
5 when linked with portion **B** is effective to inhibit cellular uptake of portion **B**, and
6 **X** is a linker of about 2 to about 100 atoms joining **A** with **B**, which can be
7 cleaved under physiological conditions, wherein **X** comprises the sequence of SEQ ID NO: 1.

- 1 2 (original): The molecule of claim 1, wherein said peptide portion **A** comprises
2 about 5 to about 9 glutamates or aspartates.

- 1 3 (original): The molecule of claim 2, wherein said peptide portion **A** comprises
2 about 5 to about 9 consecutive glutamates or aspartates.

- 1 4 (original): The molecule of claim 1, wherein said peptide portion **B** comprises
2 about 9 to about 16 arginines.

- 1 5 (original): The molecule of claim 4, wherein said peptide portion **B** comprises
2 about 9 to about 16 consecutive arginines.

- 1 6 (original): The molecule of claim 1, wherein said peptide portion **A** comprises
2 D-amino acids.

- 1 7 (original): The molecule of claim 1, wherein said peptide portion **B** comprises
2 D-amino acids.

1 8 (original): The molecule of claim 1, wherein said peptide portion **A** consists of
2 D-amino acids.

1 9 (original): The molecule of claim 1, wherein said peptide portion **B** consists of
2 D-amino acids.

1 10 (original): The molecule of claim 1, wherein said peptide portions **A** and **B**
2 consists of D-amino acids.

1 11 (previously presented): A molecule for transporting a cargo moiety across a
2 cell membrane of the structure **A** – **X** – **B** – **C**, wherein

3 **C** is a portion comprising a cargo moiety,

4 **B** is a peptide portion of about 5 to about 20 basic amino acid residues, which is
5 suitable for cellular uptake, is covalently linked to portion **C**, and is effective to enhance
6 transport of cargo portion **C** across a cell membrane,

7 **A** is a peptide portion of about 2 to about 20 acidic amino acid residues, which
8 when linked with portion **B** is effective to inhibit cellular uptake of **B** – **C**, and

9 **X** is a cleavable linker of about 2 to about 100 atoms joining **A** with **B** – **C**, which
10 can be cleaved under physiological conditions, wherein **X** comprises the sequence of SEQ ID
11 NO: 1.

1 12 (original): The molecule of claim 11, wherein said peptide portion **A**
2 comprises amino acids selected from the group of acidic amino acids consisting of glutamate and
3 aspartate.

1 13 (original): The molecule of claim 11, wherein said peptide portion **B**
2 comprises amino acids selected from the group of basic amino acids consisting of arginine and
3 histidine.

1 14 (original): The molecule of claim 11, wherein said cargo portion **C** is selected
2 from the group of cargo moieties consisting of a fluorescent moiety, a fluorescence-quenching

3 moiety, a radioactive moiety, a radiopaque moiety, a paramagnetic moiety, a nanoparticle, a
4 vesicle, a molecular beacon, a marker, a marker enzyme, a contrast agent, a chemotherapeutic
5 agent, and a radiation-sensitizer.

1 15 (original): The molecule of claim 14, wherein the cargo portion **C** comprises
2 a contrast agent for diagnostic imaging.

1 16 (original): The molecule of claim 14, wherein the cargo portion **C** comprises
2 a radiation sensitizer for radiation therapy.

1 17 (original): The molecule of claim 11, wherein said peptide portion **A**
2 comprises about 5 to about 9 glutamates or aspartates.

1 18 (original): The molecule of claim 17, wherein said peptide portion **A**
2 comprises about 5 to about 9 consecutive glutamates or aspartates.

1 19 (original): The molecule of claim 11, wherein said portion peptide **B**
2 comprises between about 9 to about 16 arginines.

1 20 (original): The molecule of claim 19, wherein said peptide portion **B**
2 comprises between about 9 to about 16 consecutive arginines.

1 21 (original): The molecule of claim 11, wherein said peptide portion **A**
2 comprises D-amino acids.

1 22 (original): The molecule of claim 11, wherein said peptide portion **B**
2 comprises D-amino acids.

1 23 (original): The molecule of claim 11, wherein said peptide portion **A** consists
2 of D-amino acids.

1 24 (original): The molecule of claim 11, wherein said peptide portion **B** consists
2 of D-amino acids.

1 25 (original): The molecule of claim 11, wherein said peptide portions **A** and **B**
2 consist of D-amino acids.

1 26 (original): The molecule of claim 25, wherein said peptide portion **B** consists
2 of D-arginine amino acids.

1 27 (original): The molecule of claim 11, wherein said peptide portion **A** is
2 located at a terminus of a polypeptide chain comprising **B** – **C**.

1 28 (original): The molecule of claim 11, wherein said peptide portion **A** is located
2 at the amino terminus of a polypeptide chain comprising **B** – **C**.

1 29 (original): The molecule of claim 11, wherein said peptide portion **A** is linked
2 near to or at the amino terminus of a polypeptide chain comprising **B** – **C**.

1 30 (original): The molecule of claim 11, wherein said peptide portion **A** is linked
2 near to or at the carboxy terminus of a polypeptide chain comprising **B** – **C**.

1 31 (original): The molecule of claim 11, wherein **B** – **C** comprises a polypeptide
2 chain having ends consisting of a **B**-side terminus and a **C**-side terminus, and wherein cleavable
3 linker **X** is disposed near or at said **B**-side terminus.

1 32 (original): The molecule of claim 11, wherein **B** – **C** comprises a polypeptide
2 chain having ends consisting of a **B**-side terminus and a **C**-side terminus, and wherein cleavable
3 linker **X** is disposed near or at said **C**-side terminus.

33-36 (canceled)

1 37 (original): The molecule of claim 11, wherein cleavable linker **X** comprises
2 aminocaproic acid.

38-44 (canceled)

1 45 (original): The molecule of claim 11, comprising a plurality of cleavable
2 linkers **X** linking a portion **A** to a structure **B – C**.

1 46 (previously presented): A pharmaceutical composition comprising:
2 A molecule of the structure **A – X – B**, wherein
3 **B** is a peptide portion of about 5 to about 20 basic amino acid residues, which is
4 suitable for cellular uptake,
5 **A** is a peptide portion of about 2 to about 20 acidic amino acid residues, which
6 when linked with portion **B** is effective to inhibit cellular uptake of portion **B**, and
7 **X** is a cleavable linker of about 3 to about 30 atoms joining **A** with **B**, which can
8 be cleaved under physiological conditions, wherein **X** comprises the sequence of SEQ ID NO: 1;
9 and
10 a pharmaceutically acceptable carrier.

1 47 (previously presented): The pharmaceutical composition of claim 46, wherein
2 said portion **A** has between about 5 to about 9 acidic amino acid residues, and said
3 portion **B** has between about 9 to about 16 basic amino acid residues.

1 48 (original): The pharmaceutical composition of claim 46 or 47, further
2 comprising a portion **C** covalently attached to said portion **B** and comprising a cargo moiety.

49-55 (canceled)

1 56 (original): The molecule of claim 11, comprising a single cargo portion **C**
2 linked to a plurality of portions **B**, each of portions **B** being linked to a cleavable linker portion **X**
3 linked to an acidic portion **A**.